

OIKE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/925,778

DATE: 10/09/2001

TIME: 09:35:50

Input Set : A:\USSEQLIST.TXT

Output Set: N:\CRF3\10092001\I925778.raw

ENTERED

```

4 <110> APPLICANT: JAWORSKI, DEBORAH DEE
5     PAYNE, DAVID J.
6     SLATER-RADOSTI, COURTNEY E.
7     YAN, KANG
9 <120> TITLE OF INVENTION: METHODS OF MODULATING ACTIVITY OF DXR
12 <130> FILE REFERENCE: GM50074
C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/925,778
15 <141> CURRENT FILING DATE: 2001-08-09
17 <150> PRIOR APPLICATION NUMBER: 60/223,909
18 <151> PRIOR FILING DATE: 2000-08-09
20 <160> NUMBER OF SEQ ID NOS: 6
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 1191
26 <212> TYPE: DNA
27 <213> ORGANISM: Haemophilus influenzae
29 <400> SEQUENCE: 1
30 atgcaaaaac aaaacattgt cattcttggt tcaacgggat caatcggtaa gagtaccctt 60
31 tctgttatcg aaaataaccc tcagaaatat catgcatttg cactcgtagg cggaaaaaat 120
32 gtagaagcaa tgtttgaaca atgtatcaaa ttccgaccgc actttgcggc tcttgatgat 180
33 gtaaatgcgg ctaaaatttt acgtgaaaaa ttaattgcgc atcatattcc aacggaagta 240
34 ttagcaggac gacgagctat ttgcgaactc gcagcacacc cagatgccga tcagataatg 300
35 gcgtcgattg ttggtgcagc aggattgtta ccgactcttt cagcggttaa agcaggtaaa 360
36 cgggtattac tggcaaataa agaatcactg gtaacctgcg gacagctttt tattgatgcc 420
37 gtaaaaaact atggctcgaa gctttttacca gtagatagtg aacataatgc tatctttcaa 480
38 tcattaccgc cagaagcaca agaaaaaatc ggtttttgcc cactttctga attaggtgta 540
39 agtaaaatta tactcactgg ttctggcgga ccattccgtt acacgccact tgaacaattc 600
40 accaacataa caccagaaca agcggttgca caccctaatt ggtctatggg taaaaaaatt 660
41 tctgtcgatt cagctacaat gatgaataag ggcttggaat acattgaggc tcgctggctt 720
42 ttcaatgcaa gtgcggaaga aatggaagtt attattcatc cacaatcaat tattcattct 780
43 atggtacggt atgttgacgg ctcaatcatt actcaaattg gaaatccaga tatgcgtaca 840
44 ccaattgcag aaactatggc atatactcac cgcacttttg ctggagtaga accactcgat 900
45 ttcttttaaaa tcaaagaact gacatttatt gaacctgatt ttaatcgcta tccaaattta 960
46 aaactggcta ttgatgcctt tgctgcgggt caatatgcga caacagcaat gaatgcagct 1020
47 aatgaaattg ccgtacaagc attttttagat cgtcaaattg gctttatgga tattgcaaaa 1080
48 attaattcga aaacaattga gagaatttcg ccttatacca ttcaaaatat tgatgatgta 1140
49 ctcgaaattg atgcacaagc aagagagatt gcgaaaacac tacttagaga a 1191
51 <210> SEQ ID NO: 2
52 <211> LENGTH: 1588
53 <212> TYPE: PRT
54 <213> ORGANISM: Haemophilus influenzae
56 <400> SEQUENCE: 2
57 Met Gln Lys Gln Asn Ile Val Ile Leu Gly Ser Thr Gly Ser Ile Gly
58 1 5 10 15
59 Lys Ser Thr Leu Ser Val Ile Glu Asn Asn Pro Gln Lys Tyr His Ala
60 20 25 30
61 Phe Ala Leu Val Gly Gly Lys Asn Val Glu Ala Met Phe Glu Gln Cys

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/925,778

DATE: 10/09/2001

TIME: 09:35:50

Input Set : A:\USSEQLIST.TXT

Output Set: N:\CRF3\10092001\I925778.raw

| | | | |
|-----|---|-----|-----|
| 62 | 35 | 40 | 45 |
| 63 | Ile Lys Phe Arg Pro His Phe Ala Ala Leu Asp Asp Val Asn Ala Ala | | |
| 64 | 50 | 55 | 60 |
| 65 | Lys Ile Leu Arg Glu Lys Leu Ile Ala His His Ile Pro Thr Glu Val | | |
| 66 | 65 | 70 | 75 |
| 67 | Leu Ala Gly Arg Arg Ala Ile Cys Glu Leu Ala Ala His Pro Asp Ala | | |
| 68 | 85 | 90 | 95 |
| 69 | Asp Gln Ile Met Ala Ser Ile Val Gly Ala Ala Gly Leu Leu Pro Thr | | |
| 70 | 100 | 105 | 110 |
| 71 | Leu Ser Ala Val Lys Ala Gly Lys Arg Val Leu Leu Ala Asn Lys Glu | | |
| 72 | 115 | 120 | 125 |
| 73 | Ser Leu Val Thr Cys Gly Gln Leu Phe Ile Asp Ala Val Lys Asn Tyr | | |
| 74 | 130 | 135 | 140 |
| 75 | Gly Ser Lys Leu Leu Pro Val Asp Ser Glu His Asn Ala Ile Phe Gln | | |
| 76 | 145 | 150 | 155 |
| 77 | Ser Leu Pro Pro Glu Ala Gln Glu Lys Ile Gly Phe Cys Pro Leu Ser | | |
| 78 | 165 | 170 | 175 |
| 79 | Glu Leu Gly Val Ser Lys Ile Ile Leu Thr Gly Ser Gly Gly Pro Phe | | |
| 80 | 180 | 185 | 190 |
| 81 | Arg Tyr Thr Pro Leu Glu Gln Phe Thr Asn Ile Thr Pro Glu Gln Ala | | |
| 82 | 195 | 200 | 205 |
| 83 | Val Ala His Pro Asn Trp Ser Met Gly Lys Lys Ile Ser Val Asp Ser | | |
| 84 | 210 | 215 | 220 |
| 85 | Ala Thr Met Met Asn Lys Gly Leu Glu Tyr Ile Glu Ala Arg Trp Leu | | |
| 86 | 225 | 230 | 235 |
| 87 | Ala Thr Gly Cys Ala Ala Ala Ala Cys Ala Ala Ala Cys Ala | | |
| 88 | 245 | 250 | 255 |
| 89 | Thr Thr Gly Thr Cys Ala Thr Thr Cys Thr Thr Gly Gly Thr Thr Cys | | |
| 90 | 260 | 265 | 270 |
| 91 | Ala Ala Cys Gly Gly Gly Ala Thr Cys Ala Ala Thr Cys Gly Gly Thr | | |
| 92 | 275 | 280 | 285 |
| 93 | Ala Ala Gly Ala Gly Thr Ala Cys Cys Cys Thr Thr Thr Cys Thr Gly | | |
| 94 | 290 | 295 | 300 |
| 95 | Thr Thr Ala Thr Cys Gly Ala Ala Ala Ala Thr Ala Ala Cys Cys Cys | | |
| 96 | 305 | 310 | 315 |
| 97 | Thr Cys Ala Gly Ala Ala Ala Thr Ala Thr Cys Ala Thr Gly Cys Ala | | |
| 98 | 325 | 330 | 335 |
| 99 | Thr Thr Thr Gly Cys Ala Cys Thr Cys Gly Thr Ala Gly Gly Cys Gly | | |
| 100 | 340 | 345 | 350 |
| 101 | Gly Ala Ala Ala Ala Ala Ala Thr Gly Thr Ala Gly Ala Ala Gly Cys | | |
| 102 | 355 | 360 | 365 |
| 103 | Ala Ala Thr Gly Thr Thr Thr Gly Ala Ala Cys Ala Ala Thr Gly Thr | | |
| 104 | 370 | 375 | 380 |
| 105 | Ala Thr Cys Ala Ala Ala Thr Thr Cys Cys Gly Ala Cys Cys Gly Cys | | |
| 106 | 385 | 390 | 395 |
| 107 | Ala Cys Thr Thr Thr Gly Cys Gly Gly Cys Thr Cys Thr Thr Gly Ala | | |
| 108 | 405 | 410 | 415 |
| 109 | Thr Gly Ala Thr Gly Thr Ala Ala Ala Thr Gly Cys Gly Gly Cys Thr | | |
| 110 | 420 | 425 | 430 |

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/925,778

DATE: 10/09/2001

TIME: 09:35:50

Input Set : A:\USSEQLIST.TXT

Output Set: N:\CRF3\10092001\I925778.raw

```

111 Ala Ala Ala Ala Thr Thr Thr Thr Ala Cys Gly Thr Gly Ala Ala Ala
112          435          440          445
113 Ala Ala Thr Thr Ala Ala Thr Thr Gly Cys Gly Cys Ala Thr Cys Ala
114          450          455          460
115 Thr Ala Thr Thr Cys Cys Ala Ala Cys Gly Gly Ala Ala Gly Thr Ala
116 465          470          475          480
117 Thr Thr Ala Gly Cys Ala Gly Gly Ala Cys Gly Ala Cys Gly Ala Gly
118          485          490          495
119 Cys Thr Ala Thr Thr Thr Gly Cys Gly Ala Ala Cys Thr Cys Gly Cys
120          500          505          510
121 Ala Gly Cys Ala Cys Ala Cys Cys Cys Ala Gly Ala Thr Gly Cys Cys
122          515          520          525
123 Gly Ala Thr Cys Ala Gly Ala Thr Ala Ala Thr Gly Gly Cys Gly Thr
124          530          535          540
125 Cys Gly Ala Thr Thr Gly Thr Thr Gly Gly Thr Gly Cys Ala Gly Cys
126 545          550          555          560
127 Ala Gly Gly Ala Thr Thr Gly Thr Thr Ala Cys Cys Gly Ala Cys Thr
128          565          570          575
129 Cys Thr Thr Thr Cys Ala Gly Cys Gly Gly Thr Thr Ala Ala Ala Gly
130          580          585          590
131 Cys Ala Gly Gly Thr Ala Ala Ala Cys Gly Gly Gly Thr Ala Thr Thr
132          595          600          605
133 Ala Cys Thr Gly Gly Cys Ala Ala Ala Thr Ala Ala Ala Gly Ala Ala
134          610          615          620
135 Thr Cys Ala Cys Thr Gly Gly Thr Ala Ala Cys Cys Thr Gly Cys Gly
136 625          630          635          640
137 Gly Ala Cys Ala Gly Cys Thr Thr Thr Thr Thr Ala Thr Thr Gly Ala
138          645          650          655
139 Thr Gly Cys Cys Gly Thr Ala Ala Ala Ala Ala Ala Cys Thr Ala Thr
140          660          665          670
141 Gly Gly Cys Thr Cys Gly Ala Ala Gly Cys Thr Thr Thr Thr Ala Cys
142          675          680          685
143 Cys Ala Gly Thr Ala Gly Ala Thr Ala Gly Thr Gly Ala Ala Cys Ala
144          690          695          700
145 Thr Ala Ala Thr Gly Cys Thr Ala Thr Cys Thr Thr Thr Cys Ala Ala
146 705          710          715          720
147 Thr Cys Ala Thr Thr Ala Cys Cys Gly Cys Cys Ala Gly Ala Ala Gly
148          725          730          735
149 Cys Ala Cys Ala Ala Gly Ala Ala Ala Ala Ala Ala Thr Cys Gly Gly
150          740          745          750
151 Thr Thr Thr Thr Thr Gly Cys Cys Cys Ala Cys Thr Thr Thr Cys Thr
152          755          760          765
153 Gly Ala Ala Thr Thr Ala Gly Gly Thr Gly Thr Ala Ala Gly Thr Ala
154          770          775          780
155 Ala Ala Ala Thr Thr Ala Thr Ala Cys Thr Cys Ala Cys Thr Gly Gly
156 785          790          795          800
157 Thr Thr Cys Thr Gly Gly Cys Gly Gly Ala Cys Cys Ala Thr Thr Cys
158          805          810          815
159 Cys Gly Thr Thr Ala Cys Ala Cys Gly Cys Cys Ala Cys Thr Thr Gly

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/925,778

DATE: 10/09/2001

TIME: 09:35:50

Input Set : A:\USSEQLIST.TXT

Output Set: N:\CRF3\10092001\I925778.raw

| | | | | | | |
|-----|-------------|-----------------|-----------------|-----------------|-----------------|------|
| 160 | | 820 | | 825 | | 830 |
| 161 | Ala Ala Cys | Ala Ala Thr Thr | Cys Ala Cys Cys | Ala Ala Cys Ala | Ala Cys Ala Thr | |
| 162 | | 835 | | 840 | | 845 |
| 163 | Ala Ala Cys | Ala Cys Cys | Ala Gly Ala Ala | Cys Ala Ala Gly | Cys Gly | |
| 164 | | 850 | | 855 | | 860 |
| 165 | Gly Thr Thr | Gly Cys Ala | Cys Ala Cys Cys | Cys Thr Ala Ala | Thr Thr | |
| 166 | 865 | | 870 | | 875 | 880 |
| 167 | Gly Gly Thr | Cys Thr Ala | Thr Gly Gly Gly | Thr Ala Ala Ala | Ala Ala | |
| 168 | | 885 | | 890 | | 895 |
| 169 | Ala Ala Thr | Thr Thr Cys | Thr Gly Thr Cys | Gly Ala Thr Thr | Cys Ala | |
| 170 | | 900 | | 905 | | 910 |
| 171 | Gly Cys Thr | Ala Cys Ala | Ala Thr Gly Ala | Thr Gly Ala Ala | Thr Ala | |
| 172 | | 915 | | 920 | | 925 |
| 173 | Ala Gly Gly | Gly Cys Thr | Thr Gly Gly Ala | Ala Thr Ala Cys | Ala Thr | |
| 174 | | 930 | | 935 | | 940 |
| 175 | Thr Gly Ala | Gly Gly Cys | Thr Cys Gly Cys | Thr Gly Gly Cys | Thr Thr | |
| 176 | 945 | | 950 | | 955 | 960 |
| 177 | Thr Thr Cys | Ala Ala Thr | Gly Cys Ala Ala | Gly Thr Gly Cys | Gly Gly | |
| 178 | | 965 | | 970 | | 975 |
| 179 | Ala Ala Gly | Ala Ala Ala | Thr Gly Gly Ala | Ala Gly Thr Thr | Ala Thr | |
| 180 | | 980 | | 985 | | 990 |
| 181 | Thr Ala Thr | Thr Cys Ala | Thr Cys Cys | Ala Cys Ala Ala | Thr Cys Ala | |
| 182 | | 995 | | 1000 | | 1005 |
| 183 | Ala Thr Thr | Ala Thr Thr | Cys Ala Thr Thr | Cys Thr Ala Thr | Gly Gly | |
| 184 | | 1010 | | 1015 | | 1020 |
| 185 | Thr Ala Cys | Gly Gly Thr | Ala Thr Gly Thr | Thr Gly Ala Cys | Gly Gly | |
| 186 | 1025 | | 1030 | | 1035 | 1040 |
| 187 | Cys Thr Cys | Ala Gly Thr | Cys Ala Thr Thr | Ala Cys Thr Cys | Ala Ala | |
| 188 | | 1045 | | 1050 | | 1055 |
| 189 | Ala Thr Gly | Gly Gly Ala | Ala Ala Thr | Cys Cys Ala Gly | Ala Thr Ala | |
| 190 | | 1060 | | 1065 | | 1070 |
| 191 | Thr Gly Cys | Gly Thr Ala | Cys Ala Cys Cys | Ala Ala Thr Thr | Gly Cys | |
| 192 | | 1075 | | 1080 | | 1085 |
| 193 | Ala Gly Ala | Ala Ala Cys | Thr Ala Thr Gly | Gly Cys Ala Thr | Ala Thr | |
| 194 | | 1090 | | 1095 | | 1100 |
| 195 | Cys Cys Thr | Cys Ala Cys | Cys Gly Cys Ala | Cys Thr Thr Thr | Thr Gly | |
| 196 | 1105 | | 1110 | | 1115 | 1120 |
| 197 | Cys Thr Gly | Gly Ala Gly | Thr Ala Gly Ala | Ala Cys Cys Ala | Cys Thr | |
| 198 | | 1125 | | 1130 | | 1135 |
| 199 | Cys Gly Ala | Thr Thr Thr | Cys Thr Thr Thr | Ala Ala Ala Ala | Thr Cys | |
| 200 | | 1140 | | 1145 | | 1150 |
| 201 | Ala Ala Ala | Gly Ala Ala | Cys Thr Gly Ala | Cys Ala Thr Thr | Thr Ala | |
| 202 | | 1155 | | 1160 | | 1165 |
| 203 | Thr Thr Gly | Ala Ala Cys | Cys Thr Gly Ala | Thr Thr Thr Thr | Ala Ala | |
| 204 | | 1170 | | 1175 | | 1180 |
| 205 | Thr Cys Gly | Cys Thr Ala | Thr Cys Cys | Ala Ala Ala Thr | Thr Thr | |
| 206 | 1185 | | 1190 | | 1195 | 1200 |
| 207 | Ala Ala Ala | Cys Thr Gly | Gly Cys Thr | Ala Thr Thr Gly | Ala Thr Gly | |
| 208 | | 1205 | | 1210 | | 1215 |

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/925,778

DATE: 10/09/2001

TIME: 09:35:50

Input Set : A:\USSEQLIST.TXT

Output Set: N:\CRF3\10092001\I925778.raw

```

209 Cys Cys Thr Thr Thr Gly Cys Thr Gly Cys Gly Gly Gly Thr Cys Ala
210      1220      1225      1230
211 Ala Thr Ala Thr Gly Cys Gly Ala Cys Ala Ala Cys Ala Gly Cys Ala
212      1235      1240      1245
213 Ala Thr Gly Ala Ala Thr Gly Cys Ala Gly Cys Thr Ala Ala Thr Gly
214      1250      1255      1260
215 Ala Ala Ala Thr Thr Gly Cys Cys Gly Thr Ala Cys Ala Ala Gly Cys
216 1265      1270      1275      1280
217 Ala Thr Thr Thr Thr Thr Ala Gly Ala Thr Cys Gly Thr Cys Ala Ala
218      1285      1290      1295
219 Ala Thr Thr Gly Gly Cys Thr Thr Thr Ala Thr Gly Gly Ala Thr Ala
220      1300      1305      1310
221 Thr Thr Gly Cys Ala Ala Ala Ala Ala Thr Thr Ala Ala Thr Thr Cys
222      1315      1320      1325
223 Gly Ala Ala Ala Ala Cys Ala Ala Thr Thr Gly Ala Gly Ala Gly Ala
224      1330      1335      1340
225 Ala Thr Thr Thr Cys Gly Cys Cys Thr Thr Ala Thr Ala Cys Cys Ala
226 1345      1350      1355      1360
227 Thr Thr Cys Ala Ala Ala Ala Thr Ala Thr Thr Gly Ala Thr Gly Ala
228      1365      1370      1375
229 Thr Gly Thr Ala Cys Thr Cys Gly Ala Ala Ala Thr Thr Gly Ala Thr
230      1380      1385      1390
231 Gly Cys Ala Cys Ala Ala Gly Cys Ala Ala Gly Ala Gly Ala Gly Ala
232      1395      1400      1405
233 Thr Thr Gly Cys Gly Ala Ala Ala Ala Cys Ala Cys Thr Ala Cys Thr
234      1410      1415      1420
235 Thr Ala Gly Ala Gly Ala Ala Phe Asn Ala Ser Ala Glu Glu Met Glu
236 1425      1430      1435      1440
237 Val Ile Ile His Pro Gln Ser Ile Ile His Ser Met Val Arg Tyr Val
238      1445      1450      1455
239 Asp Gly Ser Val Ile Thr Gln Met Gly Asn Pro Asp Met Arg Thr Pro
240      1460      1465      1470
241 Ile Ala Glu Thr Met Ala Tyr Pro His Arg Thr Phe Ala Gly Val Glu
242      1475      1480      1485
243 Pro Leu Asp Phe Phe Lys Ile Lys Glu Leu Thr Phe Ile Glu Pro Asp
244      1490      1495      1500
245 Phe Asn Arg Tyr Pro Asn Leu Lys Leu Ala Ile Asp Ala Phe Ala Ala
246 1505      1510      1515      1520
247 Gly Gln Tyr Ala Thr Thr Ala Met Asn Ala Ala Asn Glu Ile Ala Val
248      1525      1530      1535
249 Gln Ala Phe Leu Asp Arg Gln Ile Gly Phe Met Asp Ile Ala Lys Ile
250      1540      1545      1550
251 Asn Ser Lys Thr Ile Glu Arg Ile Ser Pro Tyr Thr Ile Gln Asn Ile
252      1555      1560      1565
253 Asp Asp Val Leu Glu Ile Asp Ala Gln Ala Arg Glu Ile Ala Lys Thr
254      1570      1575      1580
255 Leu Leu Arg Glu
256 1585
259 <210> SEQ ID NO: 3

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/925,778

DATE: 10/09/2001

TIME: 09:35:51

Input Set : A:\USSEQLIST.TXT

Output Set: N:\CRF3\10092001\I925778.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application Number